

**Notice of Allowability**

Application No.

10/789,622

Applicant(s)

LEONOSKY, THOMAS J.

Examiner

Art Unit

Tesfaldet Bocure

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/27/04.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☒ The drawings filed on 27 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The claimed subject matter in claims 1-17 A method for reducing the effects of a channel response in an output signal received from across the channel, the method comprising:

***estimating a channel response including a plurality of expansion coefficients by applying a steepest decent procedure to the correlation statistic, wherein the steepest decent procedure includes a bias and optimizes the plurality of expansion coefficients;***

***determining an estimated channel response from the optimized expansion coefficients;***

***generating filter coefficients for an equalizing filter from the optimized expansion coefficients;*** in combinations with measuring the output signal for a period of time;

calculating a correlation statistic from the measured output signal; and

passing the output signal through the equalizing filter, to reduce the effects of the channel response whereby an equalized output signal is produced as in claims 1 and 8, and

A system for reducing the response of a channel on signals passing through the channel, the system comprising:

***a microcontroller coupled to the correlation block, the microcontroller configured to:***

***predict a channel response of the channel from the correlation statistic, the channel response including a plurality of expansion coefficients;***

***apply a steepest decent procedure to the correlation statistic that includes a bias, wherein the steepest decent procedure optimizes the plurality of expansion coefficients; and generate a plurality of filter coefficients from expansion coefficients;*** in combinations with the correlation block configured to compute a correlation statistic for a signal received from the channel; and an equalizer coupled to the microcontroller for receiving filter the optimized coefficients from the microcontroller, the equalizer adapted to compensate for effects of the channel response included in the signal to produce an equalized output signal as in claim 11 and 15.”

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 3,764,914, 6,246,732, 6,647,078 and 6,754,340 issued to Karnaugh, Kobayashi et al., Thomas et al. and Ding et al., respectively, an “adaptive filter Theory” by Simon Haykin and “Channel-estimation-based adaptive DFE for fading multipath radio channels” by Shukia, IEE proceeding teach an equalizer's coefficients generating means using steepest decent algorithm..

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.Bocure

Tesfaldet Bocure  
Primary Examiner  
Art Unit 2631

